

Customer No.: 31561  
Application No.: 10/710,933  
Docket No.: 11537-US-PA

### **REMARKS**

#### **Present Status of Application**

The Office Action dated June 07, 2006, objected drawings for not shown every feature of the claims. Claims 1-3 and 5-7 were rejected under 35 USC§112, first paragraph for failing to comply with the written description requirement. Claims 1-3, 6 and 7 were rejected under 35 USC§102(e) as being anticipated by Terui (US Patent No. 6,534,879). Claims 1, 3, 5 and 16-18 were rejected under 35 USC§102(b) as being anticipated by Giri et al. (US Patent No. 6,261,467).

Claims 1 and 16 have been amended for providing more descriptions for clarification purposes. No new matter has been added to the application by the amendments made to the specification, claims and drawings. This Amendment is promptly filed to place the above-captioned case in condition for allowance. After entering the amendments and considering the following discussions, a notice of allowance is respectfully solicited.

#### **Discussion for the objections of drawings and the 112 rejections**

The Office Action dated June 07, 2006, objected drawings for not shown every feature of the claims; especially, "the chip covers at least a portion of the pads" as recited in claim 1.

Accordingly, claims 1-3 and 5-7 were rejected under 35 USC§112, first paragraph for reciting "the chip covers at least a portion of the pads" in claim 1.

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Claim 1 has been cancelled by deleting such phrase. New claim 27 has been added.

Reconsideration and withdrawn of this objection for the drawings and this 112 rejection are respectfully requested.

**Discussion for 35 USC§102 rejections**

*Claims 1-3, 6 and 7 were rejected under 35 USC§102(e) as being anticipated by Terui (US Patent No. 6,534,879). Claims 1, 3, 5 and 16-18 were rejected under 35 USC§102(b) as being anticipated by Giri et al. (US Patent No. 6,261,467).*

Claims 1 and 16 have been amended for clarification purposes. New claim 27 has been added. Supporting grounds for such amendments can be found in at least figures 2A-2B and related contexts in the specification and at least paragraphs [0025]-[0027] of the specification.

Applicants submit that independent claim 1 or 16 patentably defines over the prior references for at least the reason that the cited art fails to disclose each and every feature as claimed in the present invention.

The Office Action alleged Terui's substrate 10, pad & solder balls 30/40 and chip 60 comparable to the chip carrier, the conductive leads and the chip of this invention.

Applicants respectfully traverse this allegation.

As taught in Terui's Figure 3A-3B, the semiconductor device 100 includes a substrate 10, pads 30 and ball electrodes 40 (made of solder) on the pads 30 (col. 4, lines

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1-6), and solder balls 40 and pads 30 are disposed on the substrate 10 (i.e. the printed board) (col. 13, lines 35-39). In this case, even considering chip 60 is comparable to the chip of this invention, Terui does not teaches the conductive leads of this invention because Terui's solder balls are disposed on and protrude from the bottom surface of the substrate 10, which are contrary to the conductive leads "inlaid in the chip carrier" as recited in amended claim 1. Moreover, Terui fails to teach or suggest "all the pads are covered by at least the chip" as recited in new claim 27, since none of Terui's terminals 81/83/85 are covered by the chip 60 and terminals are merely arranged around the chip 60.

Accordingly, the QFN package structure of the present invention is patentably distinct from the prior art reference Terui because Terui fails to disclose all limitations of amended independent claim 1. For at least the foregoing reasons, all pending claims patentably define over the cited reference and should be allowed.

The Office Action asserted Giri's carrier 100 (top surface 114) and pads/pins 121/122 are comparable or equivalent to the chip substrate/wafer and conductive leads/conductive blocks of this invention.

Applicant respectfully disagrees with such assertion and declares that the structure of the amended claim 1 or 16 is patentably distinct from the structure of the reference Giri, for the following reasons.

As discussed previously, Giri discloses a ceramic carrier 100 including joining pads 118 on the top surface 114 and pads/pins 121/122 on the bottom surface 116. Giri

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teaches "Pads in the conductor layer 120 on the ceramic carrier's bottom surface 116 may be braze pads 121 for attaching pins 122 for pin grid array (PGA) attachment. Alternatively, the pads may be direct mount pads 121' for directly attaching the module 100 onto a printed circuit board. Also, the pads may be solder attach pads 121", used in, for example, what is commonly referred to in the art as land grid array (LGA), ball grid array (BGA), column grid array (CGA) or miniBGA." (see col. 3, lines 1-9).

Obviously, Giri's pads/pins 121/122 are disposed on and protrude from the bottom surface 116 of the ceramic carrier 100, as shown in Fig. 1. Therefore, Giri's pads/pins 121/122 will not be considered as comparable to the conductive leads "inlaid within the chip carrier" of this invention as recited in amended claim 1, to any one of ordinary skills in the art. In addition, Giri's ceramic carrier 100 should not be construed as equivalent to the "silicon wafer" recited in amended claim 16 of this invention. Clearly, sGiri's carrier made of ceramic is very different from the silicon wafer recited in claim 16.

Moreover, Giri also fails to disclose a wafer-level package structure comprising a wafer and a plurality of conductive blocks in each of the sections of the wafer. It is unfair to consider Giri's teachings of multi-chip modules (MCM), being correspondent to the wafer having a plurality of sections as recited in this invention. In wafer-level package structure of this invention, each section is considered as a package unit for single or multiple chips. Instead, even Giri's structure being the multi-chip module, no such section or units are described or taught.

Applicants therefore respectfully traverse the interpretations of the Office Action

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based on the reference Giri.

Accordingly, the structure of the present invention is patentably distinct from the prior art reference Giri because Giri fails to disclose all limitations of amended independent claim 1 or 16. For at least the foregoing reasons, all pending claims patently define over the cited reference and should be allowed.

Consequently, reconsideration and withdrawal of these 102 rejections are respectfully requested.

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**CONCLUSION**

In view of the foregoing, it is believed that all pending claims are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

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Respectfully submitted,

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